

WHAT IS CLAIMED IS:

1. An encoded-data converting apparatus for use with image data comprising:
  - a) encoded-data input means for inputting first encoded data encoded with a first encoding;
  - b) header extracting means for extracting first header information from the first encoded data;
  - c) header generating means for generating second header information for a second encoding from the first header information;
  - d) conversion setting means for setting-up variable-length-code conversion based on both a predetermined parameter for use in the second encoding and an encoding parameter used in the first encoding;
  - e) frame-data extracting means for extracting encoded data in one frame from the first encoded data;
  - f) variable-length-code converting means for converting a variable length code in the encoded data in accordance with the variable-length-code conversion set-up by said conversion setting means;
  - g) DC-component converting means for decoding DC components in the encoded data in the frame into quantized values and using the quantized values to perform predictive encoding based on the second encoding; and

h) encoded-data output means for shaping the second header information and outputs of said variable-length-code converting means, and said DC-component converting means into data, and outputting the data as data encoded by the second encoding.

2. An encoded-data converting apparatus according to claim 1, further comprising:

variable-length-code decoding means for decoding variable length codes in the encoded data in the frame which is extracted by said frame data extracting means;

storage means for storing a decoded result obtained by the decoding of the variable length codes;

motion compensating means for retrieving motion vectors by referring to the decoded result stored in said storage means and calculating prediction errors of the decoded result based on the retrieved motion vectors; and

prediction error encoding means for encoding the prediction errors,

wherein said encoded-data output means shapes the outputs into the data, including the output of said prediction error encoding means, and outputs the data as data encoded by the second encoding.

3. An encoded-data converting apparatus according to

claim 2, wherein said motion compensating means determines which encoding is performed from between intra-encoding and inter-encoding.

4. An encoded-data converting apparatus according to claim 1, wherein said motion compensating means and said prediction error encoding means do not operate when intra-encoding is performed, but operate when inter-encoding is performed.

5. An encoded-data converting apparatus according to claim 4, wherein said prediction error encoding means performs AC predictive encoding when the intra-encoding is performed.

6. An encoded-data converting apparatus according to claim 2, wherein said DC component converting means operates when intra-encoding is performed.

7. An encoded-data converting apparatus according to claim 1, wherein the header information includes image-description information and encoding-parameter information.

8. An encoded-data converting apparatus according to claim 1, wherein said conversion setting means sets a

variable-length-code conversion table.

9. An encoded-data converting apparatus according to claim 1, wherein, in the first encoding, only intra-encoding is used, and in the second encoding, adaptive use of intra-encoding and inter-encoding is performed.

10. An encoded-data converting apparatus according to claim 9, wherein the first encoding is JPEG encoding.

11. An encoded-data converting apparatus according to claim 9, wherein the second encoding is MPEG-4 encoding.

12. An encoded-data converting method comprising:  
an input step for inputting first encoded data generated by using first encoding to encode image data;  
a header extracting step for extracting header information included in the first encoded data;  
a header generating step for generating header information based on second encoding from the header information included in the first encoded data;  
a conversion setting step for setting-up variable-length-code conversion based on a predetermined parameter for use in the second encoding and an encoding parameter used in the first encoding;

a frame-data extracting step for extracting encoded data in one frame from the first encoded data;

a variable-length-code converting step for converting a variable length code in the encoded data in the frame in accordance with the variable-length-code conversion set-up by said conversion setting step;

a DC-component converting step for decoding DC components in the encoded data in the frame into quantized values and using the quantized values to perform predictive encoding based on the second encoding; and

an encoded-data output step for shaping the outputs of said header generating step, said variable-length-code converting step, and said DC-component converting step into data, and outputting the data as data encoded by the second encoding.

13. An encoded-data converting method according to claim 12, further comprising:

a variable-length-code decoding step for decoding variable length codes in the encoded data in the frame which is extracted by said frame data extracting step;

a motion compensating step for retrieving motion vectors by referring to a decoded result obtained in said variable-length-code decoding step and calculating prediction errors of the decoded result based on the

retrieved motion vectors; and

a prediction error encoding step for encoding the prediction errors,

wherein, in said encoded-data output step, the output of said prediction error encoding step is shaped into data, and the data is output as data encoded by the second encoding.

14. An encoded-data converting method according to claim 12, wherein said motion compensating step determines which encoding is performed from between intra-encoding and inter-encoding.

15. An encoded-data converting method according to claim 14, wherein said motion compensating step and said prediction error encoding step are not executed when intra-encoding is performed, but are executed when inter-encoding is performed.

16. An encoded-data converting method according to claim 13, wherein, in said prediction error encoding step, AC predictive encoding is performed when the intra-encoding is performed.

17. An encoded-data converting method according to

claim 13, wherein said DC component converting step is executed when intra-encoding is performed.

18. An encoded-data converting method according to claim 12, wherein the header information includes image-description information and encoding-parameter information.

19. An encoded-data converting method according to claim 12, wherein, in said conversion setting step, a variable-length-code conversion table is set.

20. A recording medium containing a program for causing a computer to execute each of steps constituting an encoded-data data converting method according to claim 12.